according to Regulation (EC) No. 1907/2006



mikrozid® AF liquid No Change Service!

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : mikrozid® AF liquid

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub-

: Disinfectants and general biocidal products

stance/Mixture

1.3 Details of the supplier of the safety data sheet

Manufacturer/ Supplier : Schülke & Mayr GmbH

Robert-Koch-Str. 2

22851 Norderstedt

Germany

Telephone: +49 (0)40/ 52100-0 Telefax: +49 (0)40/ 52100318

mail@schuelke.com www.schuelke.com

E-mail address of person

responsible for the SDS/Contact person

: Application Department +49 (0)40/ 521 00 8800

ADHI@schuelke.com

(Schülke & Mayr UK Ltd.: +44-1142543500)

1.4 Emergency telephone number

Emergency telephone num-

: UK Poisons Emergency number: 0870 600 6266

ber

Emergency telephone num-

: +49 (0)40/ 52100-0

bei

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3 H226: Flammable liquid and vapour. Eye irritation, Category 2 H319: Causes serious eye irritation.

Specific target organ toxicity - single ex-

posure, Category 3

H319: Causes serious eye irritation.
H336: May cause drowsiness or dizziness.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms





Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

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Precautionary statements : P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks,

open flames and other ignition sources. No

smoking.

P261 Avoid breathing vapours/ spray.

P271 Use only outdoors or in a well-ventilated

area.

P280 Wear protective gloves (e.g. Nitrile rubber)

/eve protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for

several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/

attention.

Special labelling of certain

mixtures

: Labelling according to Regulation (EC) No. 648/2004: (per-

fumes)

Further information : Use biocides safely. Always read the label and product infor-

mation before use.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Vapours may form explosive mixtures with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Solution of the following substances with harmless additives.

Hazardous components

Chemical name	Index-Number CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
Propan-1-ol	603-003-00-0 71-23-8 200-746-9 01-2119486761-29- XXXX	Flam. Liq. 2; H225 Eye Dam. 1; H318 STOT SE 3; H336	35
Ethanol	603-002-00-5 64-17-5 200-578-6 01-2119457610-43- XXXX	Flam. Liq. 2; H225 Eye Irrit. 2; H319	25

For explanation of abbreviations see section 16.

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SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Take off all contaminated clothing immediately.

If inhaled : Move to fresh air. If symptoms persist, call a physician.

In case of skin contact : Wash off with plenty of water. If symptoms persist, call a phy-

: In case of eye contact, remove contact lens and rinse imme-In case of eye contact

diately with plenty of water, also under the eyelids, for at least

15 minutes. If eye irritation persists, consult a specialist.

If swallowed : Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Treat symptomatically.,

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : For specialist advice physicians should contact the Poisons

Information Service.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Dry powder, Alcohol-resistant foam, Carbon dioxide (CO2),

Water spray jet

Unsuitable extinguishing

media

: High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

: Cool closed containers exposed to fire with water spray.

Specific risk from the substance or the product itself, its combustion products or

evolved gases

: Vapours may form explosive mixtures with air.

5.3 Advice for firefighters

Special protective equipment : In the event of fire, wear self-contained breathing apparatus.

for firefighters

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Ensure adequate ventilation. Remove all sources of ignition.

6.2 Environmental precautions

Environmental precautions : Avoid subsoil penetration.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Wipe up with absorbent material (e.g. cloth, fleece).

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Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

6.4 Reference to other sections

see Section 8 + 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.

Use only in well-ventilated areas.

Advice on protection against

Keep away from sources of ignition - No smoking. The hot

fire and explosion

product gives off combustible vapours.

Hygiene measures : Keep away from food and drink.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

: Store at room temperature in the original container. Do not

store at temperatures above 30°C.

Further information on stor-

: Keep container tightly closed. Keep away from direct sunlight.

age conditions

Recommended storage temperature: 15 - 25°C: Do not store together with oxidising agents.

Advice on common storage

7.3 Specific end use(s)

Specific use(s) : none

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

<u> </u>	•			
Components	CAS-No.	Value type (Form	Control parameters	Basis
		of exposure)		
Ethanol	64-17-5	Permissible ex-	500 ppm	TRGS 900
		posure limit	960 mg/m3	
		Ceiling Limit Val-	1.000 ppm	TRGS 900
		ue	1.920 mg/m3	
		Permissible ex-	1.000 ppm	OSHA
		posure limit	1.900 mg/m3	
Propan-1-ol	71-23-8	Permissible ex-	200 ppm	OSHA
		posure limit	500 mg/m3	

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Ethanol	Workers	Inhalation	Acute effects, Local effects	1900 mg/m3
	Workers	Skin contact	Chronic effects	343 mg/kg
	Workers	Inhalation	Chronic effects	950 mg/m3
Propan-1-ol	Workers	Skin contact	Long-term exposure, Systemic effects	136 mg/kg
	Workers	Inhalation	Long-term exposure, Systemic effects	268 mg/m3

according to Regulation (EC) No. 1907/2006



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Workers Inhalation Short-term exposure, Systemic effects 1723 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment Value	
Propan-1-ol	Fresh water	10 mg/l
	Marine water	1 mg/l
	Fresh water sediment	22,8 mg/kg
	Marine sediment	2,28 mg/kg
	Effects on waste water treatment plants	96 mg/l
	Soil	2,2 mg/kg
	Intermittent use/release	10 mg/l
Ethanol	Fresh water	0,96 mg/l
	Marine water	0,79 mg/l
	Fresh water sediment	3,6 mg/kg
	Soil	0,63 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye protection : Safety glasses with side-shields conforming to EN166

Hand protection

Directive : The selected protective gloves have to satisfy the specifica-

tions of EU Directive 89/686/EEC and the standard EN 374

derived from it.

Remarks : Splash protection: disposable nitrile rubber gloves e.g.

Dermatril (layer thickness: 0.11 mm) made by KCL or gloves from other manufacturers offering the same protection. Prolonged contact: Nitrile rubber gloves e.g. Camatril (>120 Min., layer thickness: 0.40 mm) or butyl rubber gloves e.g. Butoject (>480 Min., layer thickness: 0.70 mm) made by KCL or gloves

from other manufacturers offering the same protection.

Respiratory protection : No personal respiratory protective equipment normally re-

quired.

If the occupational exposure limits cannot be met, in exceptional cases suitable respiratory equipment should be worn

only for a short period of time. Recommended Filter type:

A-P2 or ABEK-P2

Respiratory protection complying with EN 141.

Protective measures : Avoid contact with skin and eyes.

SECTION 9: Physical and chemical properties

according to Regulation (EC) No. 1907/2006



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9.1 Information on basic physical and chemical properties

Appearance : liquid
Colour : colourless
Odour : alcohol-like
Odour Threshold : not determined
pH : Not applicable

Melting point/freezing point : < -5 °C

Decomposition temperature : No data available

Boiling point/boiling range : ca. 80 °C

Flash point : 27 °C, DIN 51755 Part 1 Evaporation rate : No data available

Flammability (solid, gas)

No data available

No data available

No data available

Upper explosion limit : Propan-1-ol: 17,5 %(V)
Lower explosion limit : Propan-1-ol: 2,1 %(V)
Vapour pressure : ca. 50 hPa, 20 °C
Relative vapour density : No data available
Density : ca. 0,89 g/cm3, 20 °C

Solubility(ies)

Water solubility : in all proportions , 20 °C

Partition coefficient: n- : Not applicable

octanol/water

Auto-ignition temperature : Propan-1-ol: 412 °C

Viscosity

Viscosity, dynamic : not determined

Flow time : < 15 s at 20 °C, DIN 53211

Explosive properties : No data available Oxidizing properties : No data available

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Strong acids and oxidizing agents,

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

according to Regulation (EC) No. 1907/2006



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11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: > 15.000 mg/kg Acute inhalation toxicity : Acute toxicity estimate: > 50 mg/l Acute dermal toxicity : Acute toxicity estimate: > 10.000 mg/kg

Skin corrosion/irritation

Components:

Propan-1-ol: No skin irritation

Ethanol:

Rabbit, No skin irritation

Serious eye damage/eye irritation

Product:

Causes serious eye irritation. The toxicological data has been taken from products of similar composition., Expert judgement

Respiratory or skin sensitisation

Components:

Propan-1-ol:

Does not cause skin sensitisation. Guinea pig, OECD Test Guideline 406

Ethanol:

Did not cause sensitisation on laboratory animals. Maximisation Test, Guinea pig

Germ cell mutagenicity

Components:

Propan-1-ol:

Germ cell mutagenicity- As-

: Not mutagenic in Ames Test

sessment **Ethanol:**

Genotoxicity in vitro : OECD Test Guideline 471, Not mutagenic in Ames Test

: not mutagenic Genotoxicity in vivo

: Tests on bacterial or mammalian cell cultures did not show Germ cell mutagenicity- As-

sessment

mutagenic effects.

Carcinogenicity

Components:

Propan-1-ol:

Carcinogenicity - Assess-: Animal testing did not show any carcinogenic effects.

ment **Ethanol:**

Carcinogenicity - Assess-: Did not show carcinogenic effects in animal experiments.

ment

Reproductive toxicity

Components:

Propan-1-ol:

Effects on fertility : Rat, Inhalation, NOAEL: 8,6 mg/l

according to Regulation (EC) No. 1907/2006



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Effects on foetal develop-

ment

Reproductive toxicity - As-

sessment

Ethanol:

: Rat, Inhalation, NOAEL: 8,6 mg/l

: Animal testing did not show any effects on fertility.

Rat, Oral, NOAEL: 2.000 mg/kg

Reproductive toxicity - As-

sessment

: In animal testing, risk of impaired fertility was shown only after

administration of very high doses of this substance.

STOT - single exposure

Product:

May cause drowsiness or dizziness.

STOT - repeated exposure

Components:

Propan-1-ol:

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

Ethanol:

Rat, NOAEL: 1.730 mg/kg, LOAEL: 3.160 mg/kg, Oral90 d

Aspiration toxicity

No data available

Further information

Product:

Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to bacteria : EC50: 68.750 mg/l, OECD 209

Components:

Propan-1-ol:

Toxicity to fish : LC50 (Fish): 3.200 mg/l, 96 h

Toxicity to daphnia and other

aquatic invertebrates

: EC50 (Daphnia magna (Water flea)): 3.642 mg/l, 48 h

Toxicity to algae Toxicity to daphnia and other : NOEC (Chlorella pyrenoidosa (aglae)): 1.150 mg/l, 48 h

: NOEC: > 100 mg/l, 21 d, Daphnia magna (Water flea), OECD

aquatic invertebrates (Chron-

Test Guideline 211

ic toxicity) **Ethanol:**

Toxicity to fish

: LC50 (Leuciscus idus (Golden orfe)): 8.140 mg/l, 48 h

Toxicity to daphnia and other

EC50 (Daphnia magna (Water flea)): > 5.000 mg/l, 48 h

aquatic invertebrates Toxicity to algae

IC50 (Scenedesmus quadricauda (Green algae)): > 100 mg/l,

72 h

according to Regulation (EC) No. 1907/2006



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12.2 Persistence and degradability

Product:

Biodegradability : Readily biodegradable., OECD 301D / EEC 84/449 C6

: 13.000 mg/l ,1 % solution Chemical Oxygen Demand

(COD)

Components: Propan-1-ol:

Biodegradability : Readily biodegradable., Biodegradation: 75 %, Exposure

time: 20 d

Ethanol:

Biodegradability : Readily biodegradable.

12.3 Bioaccumulative potential

Components:

Propan-1-ol:

Bioaccumulation : Bioconcentration factor (BCF): 0,88, Bioaccumulation is un-

likely.

Partition coefficient: n-

octanol/water

: log Pow: 0,43

Ethanol:

Bioaccumulation

Bioaccumulation is unlikely. Partition coefficient: n-: log Pow: -0,14, calculated

octanol/water

12.4 Mobility in soil

Components:

Propan-1-ol:

Mobility : Mobile in soils

Ethanol:

Mobility : No data available

12.5 Results of PBT and vPvB assessment

Product:

: This substance/mixture contains no components considered Assessment

> to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of

0.1% or higher.

12.6 Other adverse effects

Product:

Additional ecological infor-

: none

mation

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of the product according to the defined EWC (Euro-

pean Waste Code) No.

Contaminated packaging : Take empty packaging to the recycling plant.

according to Regulation (EC) No. 1907/2006



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Waste key for the unused

product

: EWC 070604

Waste key for the unused

product(Group)

: Waste material of HZVA from fats, lubricants, soaps, deter-

gents, disinfectants and personal protection products.

SECTION 14: Transport information

14.1 UN number

ADR : UN 1987 **IMDG** : UN 1987 **IATA** : UN 1987

14.2 UN proper shipping name

ADR : ALCOHOLS, N.O.S.

(Propan-1-ol, Ethanol)

IMDG : ALCOHOLS, N.O.S.

(Propan-1-ol, Ethanol)

IATA : Alcohols, n.o.s.

(Propan-1-ol, Ethanol)

14.3 Transport hazard class(es)

ADR : 3 **IMDG** : 3 **IATA** : 3

14.4 Packing group

ADR

: 111 Packing group Classification Code F1 Hazard Identification Number 30 Labels 3 Tunnel restriction code : D/E

IMDG

Packing group : 111 Labels 3 **EmS Code**

F-E, S-D

IATA

Packing instruction (cargo

: 366

aircraft)

Packing group : 111

: Flammable Liquid Labels

14.5 Environmental hazards

ADR

Environmentally hazardous : no

IMDG

Marine pollutant : no

according to Regulation (EC) No. 1907/2006



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14.6 Special precautions for user

For personal protection see section 8.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

: FLAMMABLE LIQUIDS

REACH - Candidate List of Substances of Very High

: Not applicable

: Not applicable

Concern for Authorisation (Article 59).

Regulation (EC) No 850/2004 on persistent organic pol-

lutants

Seveso III: Directive

2012/18/EU of the European Parliament and of the Council

on the control of majoraccident hazards involving

dangerous substances.

Volatile organic compounds

: Volatile organic compounds (VOC) content: 60 %, Directive 2010/75/EC on the limitation of emissions of volatile organic

compounds

Other regulations

: The surfactant(s) contained in this mixture complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.For further information see eSDS.

Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal productsTake note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at

work. Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values. Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable. Take note of Directive 92/85/EEC regarding maternity protection or stricter

national regulations, where applicable.

15.2 Chemical safety assessment

Exempt

SECTION 16: Other information

Full text of H-Statements

H225 : Highly flammable liquid and vapour.

H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.

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H336 : May cause drowsiness or dizziness.

Full text of other abbreviations

Eye Dam. : Serious eye damage

Eye Irrit. : Eye irritation Flam. Liq. : Flammable liquids

STOT SE : Specific target organ toxicity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx -Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No. 1272/2008

Flam. Liq. 3, H226 : On basis of test data.

Eye Irrit. 2, H319 : Calculation method

STOT SE 3, H336 : Calculation method

Changes compared with the previous edition!!!

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not

according to Regulation (EC) No. 1907/2006



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